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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/387,788

09/01/1999

CHRISTER OSTBERG

040070-422

3017

21839

7590

04/23/2004

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EXAMINER

QURESHI, AFSAR M

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/387,788

Applicant(s)

OSTBERG, CHRISTER

Examiner

Afsar M Qureshi

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3-7, 9-17, 22,23 is/are rejected.  
7) ☒ Claim(s) 8 and 18-21 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

1. This action is responsive to request for reconsideration received on February 10, 2004.

2. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

3. Claims 1, 3 -7, 9-17, 22, and 23 are rejected under 35 U. S. C. 102(b) as being anticipated by Love (WO 94/18752).

Regarding claims 1, 5, and 16, Love discloses an apparatus including a plurality of fingers, a searcher, a channel estimator, and a Doppler frequency estimator, including a normalizer configured to normalize at least two channel estimates, configured to use two or more channel estimates. See FIG. 3, page 3 lines 13 - 21, and page 8 lines 11 - 21.

Regarding claims 3 and 6, Love further discloses the Doppler frequency estimator including a subtractor. See FIG. 3, and page 8 lines 17 - 21.

Regarding claims 4 and 7, Love further discloses the Doppler frequency estimator including a multiplier. See FIG. 3, and page 8 lines 17 - 21.

Regarding claims 9 - 13, Love further discloses Doppler frequency estimator including a velocity estimator, a combiner, and the channel estimator further configured to receive a first and a second group of pilot symbols. See FIGs. 2 and 3, page 3 lines 13 - 21, and page 8 lines 11 -21.

Regarding claims 14 and 15, Love further discloses Doppler frequency estimator configured to use channel estimates, or an average of the channel estimates, from the first and second group of pilot symbols. See FIGs. 2 and 3, page 3 lines 13 - 21, and page 8 lines 11 - 21.

Regarding claim 17, Love further discloses the Doppler frequency estimator used to adjust at least one finger. See FIGs. 2 and 3, page 3 lines 13 - 21, and page 8 lines 11 - 21.

Regarding claims 22 and 23, Love further discloses the apparatus further comprising a plurality of channel estimators and a plurality of Doppler frequency estimators, and a combiner configured to calculate a weighted combination of Doppler frequency of frequency estimates. See FIGS. 2 and 3, page 3 lines 13 - 21, and page 8 lines 11 - 21.

#### ***Allowable Subject Matter***

4. Claims 8, 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

5. Applicant's arguments filed on February 10, 2004 have been fully considered but they are not persuasive. The Applicant argued that the cited art does not anticipate determining a Doppler frequency estimate. However, the Examiner contends that slope calculation of Love is based on calculation of estimated values of apparent shift in the

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signal caused by the relative motion of the transmitter and the receiver which reads on the signal processing strategy of measured Doppler shift as claimed herein (see page 8, lines 6-25).

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M Qureshi whose telephone number is (703) 308 8542. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305 4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



April 21, 2004  
**AFSAR QURESHI**  
**PATENT EXAMINER**